

### ABSTRACT OF THE DISCLOSURE

A method for processing chemical analysis data is disclosed. The method includes  
 5 including a step of cluster analysis, the cluster analysis using a distance metric of the form:

$$D_{xy} = \frac{\sum_i \left( \left( \frac{x_i - c_i}{s_i} \right) - \left( \frac{y_i - c_i}{s_i} \right) \right)^2}{\sqrt{\left( \sum_i \left( \frac{x_i - c_i}{s_i} \right)^2 \right) \times \left( \sum_i \left( \frac{y_i - c_i}{s_i} \right)^2 \right)}}$$

In performance of cluster analysis, the value of the metric increases with difference in  
 angle  $\alpha$  between vectors  $r_x$  and  $r_y$  starting in the co-ordinate centre and pointing at the  
 10 points  $X$  and  $Y$ . The value of the metric also increases with difference between lengths  
 of vectors  $r_x$  and  $r_y$  but this difference is normalised by their length. This means that  
 points located on the tail of the distribution can pass the threshold even though they are  
 further away from each other than points inside the standard deviation range.